



The secret to protecting trade secrets: How to create positive secrecy climates in organizations

Kirsten M. Robertson^{a,*}, David R. Hannah^b, Brenda A. Lautsch^b

^a School of Business, University of the Fraser Valley, 33844 King Road, Abbotsford, BC V2S 7M8, Canada

^b Beedie School of Business, Simon Fraser University, 8888 University Drive, Burnaby, BC V5A 1S6, Canada

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Abstract Many companies derive their competitive advantage from the use and protection of trade secrets. This means that if these companies' trade secrets are misappropriated, it can be extremely costly and even jeopardize their survival. In order to try to prevent employees from inappropriately divulging trade secrets, companies will often implement rules and procedures such as non-disclosure agreements that limit what employees are allowed to do with trade secrets. In spite of the prevalence of these procedures, billions of dollars in trade secrets are leaked and stolen every year, most often by companies' own employees. We argue that a key to the effective protection of trade secrets lies in the creation of positive secrecy climates, wherein keeping organizational secrets is strongly valued by employees and seen as a part of their formal role responsibilities. We explain how managers can develop positive secrecy climates in their organizations, and outline the risks and potential rewards of these climates.

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Sadly, today's arrests include an individual within our company. While this breach of trust is difficult for all of us to accept, it underscores the responsibility we each have to be vigilant in protecting our trade secrets. Information is the lifeblood of our company.

– Excerpt from a memo written by Coca-Cola Co. Chief Executive Neville Isdelle (CNNMoney.com, 2006)

1. Why should organizations protect their trade secrets?

In 2006, three employees of the Coca-Cola Company tried to sell knowledge about a forthcoming product to Coca-Cola's archrival, PepsiCo. Instead of buying

* Corresponding author
E-mail addresses: kirsten.robertson@ufv.ca (K.M. Robertson),
drhannah@sfu.ca (D.R. Hannah), blautsch@sfu.ca (B.A. Lautsch)

the secrets, PepsiCo informed Coca-Cola about these employees' actions. Luckily, because of PepsiCo's response, Coca-Cola's secrets remained concealed and the company was not harmed by the attempted theft. However, in circumstances where trade secrets are disclosed, whether accidentally or intentionally, it can be extremely harmful to the organizations that rely on those secrets as a key source of competitive advantage (Grant, 1996; Hannah, 2006). To preserve the value of their trade secrets, organizations must prevent them from falling into the hands of competitors (Dorr & Munch, 1995; James, Leiblein, & Lu, 2013). When organizations fail to accomplish this objective, the costs can be substantial. A recent report by PricewaterhouseCoopers and the Center for Responsible Enterprise and Trade has estimated that the loss of trade secrets costs the U.S. economy annually between 1% and 3% of the nation's GDP (Create.org & PwC, 2014).

Given the importance of trade secret protection, it is crucial that organizations and managers understand how to protect their secrets. At the core of this challenge lies a dilemma. On the one hand, in order for organizations to extract value from their trade secrets, some or all of those secrets must be made available to employees for use in their work. On the other hand, once employees know trade secrets, they can reveal them to outsiders, thereby reducing or eliminating the secrets' value. Evidence suggests that this happens frequently: most trade secret misappropriation involves current or former employees (Drab, 2003; Hannah, 2007; Shaw & Stock, 2011). Legal scholar David Almeling and colleagues recently reviewed nearly 400 cases of trade secret misappropriation that went through federal courts in the United States, and in more than 85% of them the alleged offender was a business partner or employee (Almeling, Snyder, Sapoznikow, McCollum, & Weader, 2010). Indeed, a recent poll revealed that 17% of workers reported they would share company secrets in exchange for compensation, and 8% acknowledged having previously done so (Morvillo & Farrell, 2012). Thus, managers must share secrets with employees, but also keep employees from divulging those secrets to outsiders. Herein, we explain the role of secrecy climates in addressing this dilemma. By creating a positive secrecy climate, managers can help to ensure that their organizations extract value from secrets without putting them at risk.

1.1. What is a trade secret?

Trade secrets contain information that is not publicly available and that confers a competitive advantage to those who possess it (Burshtein, 2000;

Merges, Menell, Lemley, & Jorde, 1997). In the U.S., the criteria for trade secrets are set out in the Uniform Trade Secrets Act (UTSA) of 1985. That definition has been widely enacted within the United States and is similar to definitions in international jurisdictions (see World Trade Organization, 1994). The UTSA (1986) defines a trade secret as:

Information, including a formula, pattern, compilation, program device, method, technique, or process that (1) derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use, and (2) is the subject of efforts that are reasonable under the circumstances to maintain its secrecy.

While some of the most famous trade secrets in the corporate world include recipes such as the formula for Coca-Cola Classic and the coating for KFC chicken (Hannah, Pitt, Parent, & Berthon, 2014), the broad scope of this definition means that a wide variety of information can be considered a trade secret, including recipes and formulae, manufacturing techniques, product designs, customer lists, compilations of customer preferences, and chemical processes, to name but a few. Also, trade secrets can be protected in perpetuity because they retain their legally protected status until the secrets become public knowledge. Therefore, if companies protect their secrets, they can exploit the competitive advantage offered by those secrets for long periods of time.

Within the legal profession, trade secrets law exists to recognize the right of individuals and organizations to keep secret their commercially valuable information (Scheppele, 1988) and to protect that information from others who might use illegal means to gain access to it (Lee & Davidson, 1993).¹ If a company's information qualifies for legal protection as a trade secret, then any other companies or individuals found guilty of misappropriating those secrets may be forbidden from using the trade secrets in their operations or required to pay damages to the victimized party (Merges et al., 1997). However, it can be difficult to catch employees who steal secrets and to prove that secrets were misappropriated. Furthermore, employees may sometimes divulge secrets for innocent reasons: they may not know that a certain piece of information should be kept secret (Hannah, 2006) or may

¹ For a more extensive discussion of trade secrets and how they relate to other forms of intellectual property, see Hannah (2005).

genuinely believe divulgence of the secret will benefit their employer (Hannah & Robertson, 2015). Thus, companies should not exclusively rely on the legal system to protect their trade secrets; they must also try to ensure that their own employees do all they can to properly conceal this valuable information.

1.2. Why employees often fail to keep secrets

Although evidence shows that employees play a pivotal role in determining whether or not information is safeguarded from outsiders, it can be challenging for managers to persuade employees to protect trade secrets in their day-to-day work. Most companies follow the advice of legal practitioners by enacting trade secrets protection procedures (TSPPs) that limit what employees are allowed to do with secrets. These procedures fall into two broad categories: (1) access restrictions that limit “employees’ right of entry to certain areas of an organization’s physical facilities, their rights to use sensitive documents and their means of copying them, and their rights to use computers and means of communication” and (2) handling procedures, typically implemented in the form of non-disclosure agreements that “establish rules for what employees can and cannot do with trade secrets once they gain access to them” (Hannah, 2005, p. 73). Although such rules and procedures usually stipulate that employees who break the rules will be subject to punishments including termination and legal action, the continuing prevalence of trade secrets misappropriation illustrates that these rules often do not work. One reason why is because employees commonly see TSPPs as onerous and intrusive (Bok, 1982). Hannah and Robertson (2015) found that when TSPPs are viewed as disruptive, employees may actually prioritize getting their work done well over compliance with the rules. The employees they studied frequently broke or bent TSPPs, thereby putting their companies’ information at risk. On other occasions, employees contravene TSPPs because they are unfamiliar with the rules (Hannah, 2005) or misinterpret them (Shaw & Stock, 2011). Consequently, if managers want to protect their organizations’ trade secrets, they cannot simply implement strict rules. Instead, they must convince employees about the importance of trade secret protection. As noted legal experts Halligan and Haas (2010) observed:

Not every company can lock its trade secrets in a vault, as with WD-40 and KFC. There is no silver bullet for trade secret protection, no hardware

widget or software program or canned process that you can buy to make you safe. But the basic solution is simple: You must use your employees to protect your secrets.

To do this, companies must focus on their *secrecy climates*: employees’ perceptions of the policies, procedures, and practices that signal how they are expected to behave regarding the protection of secrets. More specifically, managers who want to protect organizational secrets should work to create *positive secrecy climates* wherein keeping organizational secrets is strongly valued by employees and seen as a part of their formal role responsibilities. To illustrate, consider Apple Inc., a notoriously secretive company that appears to have had a positive secrecy climate since its inception. In 1977, when the company was a one-building startup, a sign in the lobby reportedly displayed the famous World War II propaganda slogan: “Loose lips sink ships” (Edwards, 2013). In another example from Apple’s history, when the company was developing the iPad, employees were made acutely aware of the need for secrecy about the project. As one employee said: “I wasn’t allowed to tell anybody anything about what we were doing. I couldn’t even tell my wife” (Dickey, 2013).

In the following section, we explain how firms can develop positive secrecy climates by engaging in practices that target individual, work unit, and organization-level functioning. We then highlight the specific outcomes, both positive and negative, that managers can expect to result from creating a positive secrecy climate. We provide a visual representation of our ideas in Figure 1.

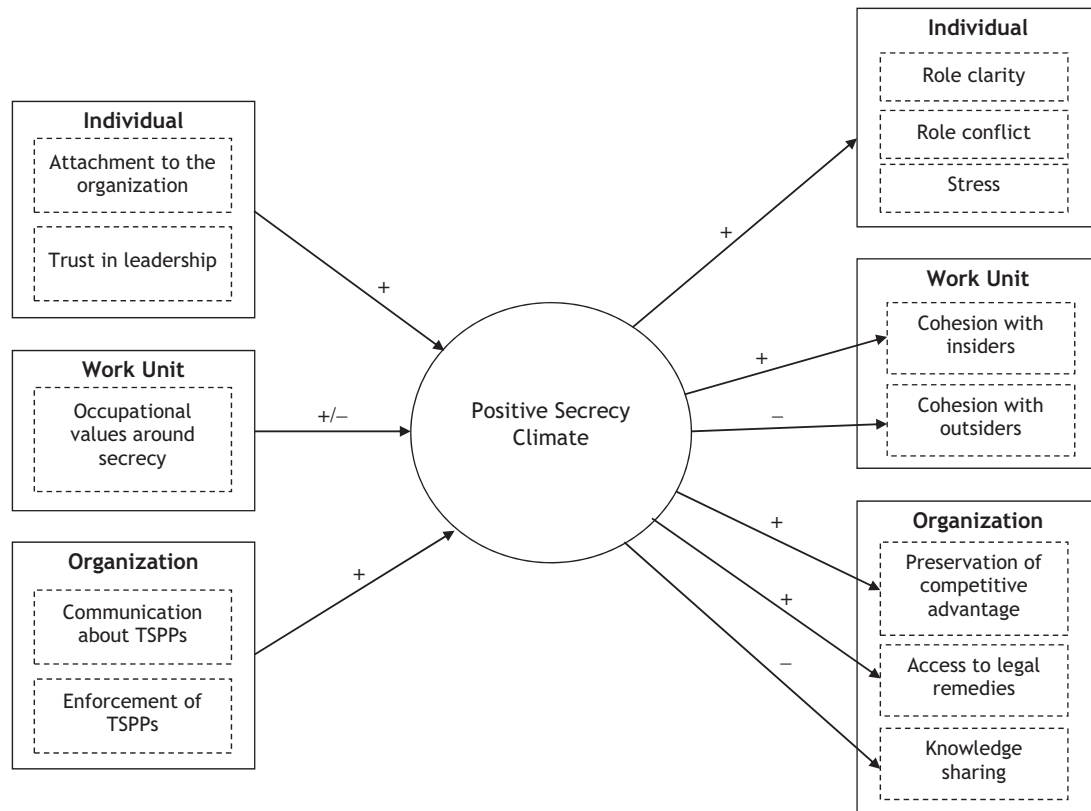
2. How can organizations develop a positive secrecy climate?

Organizational climates create the environment that shapes employee behavior, and may target specific aspects of performance such as service quality (Schneider, Bowen, Ehrhart, & Holcombe, 2000), safety (Zohar & Luria, 2005), ethics (Victor & Cullen, 1988), or—as we discuss—secrecy. In order to foster positive secrecy climates, organizations must attend not only to how employees and work units are managed, but also to broader organizational policies.

2.1. Managing employees by building loyalty and trust

In the spirit of the aforementioned idiom, “Loose lips sink ships,” we suggest the following: Loyal

Figure 1. A model of secrecy climate in organizations



employees don't share secrets. When loyal to a group, individuals want to serve its best interests (Rigney, 1979) and therefore are more apt to respond favorably when asked to keep the group's secrets. For example, researchers found that loyal family members were less likely to divulge family secrets, such as a relative's participation in the Ku Klux Klan (Vangelisti & Caughlin, 1997). In contrast, dissatisfied, disaffected employees are more likely to act against the preferences and interests of their employers (Colbert, Mount, Harter, Witt, & Barrick, 2004). Thus, employees who are loyal to their employers are more likely to respond positively when asked to protect secrets, but those employees who are unhappy might be motivated to divulge secrets in order to hurt their employers (Yovetich & Drigotas, 1999).

The second factor managers should consider is whether employees trust the organization's leaders. Employees who trust their leaders tend to show greater commitment to the decisions made or goals set by those leaders and have a higher belief in the accuracy of the information they provide (Dirks & Ferrin, 2002). This suggests that if employees trust their leaders, they are likely to respond more favorably to the policies those leaders enact; and if those leaders emphasize the importance of secrecy, employees will tend to follow the leader's example. On

the other hand, leaders that are not trusted are likely to undermine the organization's secrecy climate. To be perceived as trustworthy and credible by their subordinates, leaders must 'walk the talk' and not only emphasize the importance of secrecy and TSPPs, but also abide by the policies themselves (Simons, 2002). One of the authors of this article advised a company wherein the CEO espoused the importance of corporate secrecy to employees, but then gave an interview to a prominent business publication with which he shared some of the company's secrets. Not surprisingly, after that incident the employees started to disregard their leader's exhortations about secrecy.

2.2. Managing work units by considering occupational values

Within organizations, values often differ across work units, and these differences can have a powerful influence on the attitudes and behaviors group members consider appropriate (Trice & Beyer, 1993). Values and beliefs about secrecy in particular can vary across work units due to differences in the training and perspectives of occupational groups within the unit. For example, Hannah and Robertson (2015) found that scientists with a background in academia who had been enculturated into the values

of scholarly sharing tended to resent rules that required secrecy. On the other hand, the legal and IT departments tended to view secrecy and the protection of information as values integral to their occupations. Employees from these latter occupational backgrounds responded more positively to TSPPs and experienced less stress upon being asked to keep secrets than did their scientist colleagues.

The implication is that for work units with strong occupational values around secrecy, positive secrecy climates may develop naturally, in which case managers will not need to intervene as much to ensure that secrets are protected. On the other hand, there are also likely to be work units wherein, left to their own devices, values around openness and knowledge sharing may prevail. When it comes to these latter types of work units, managers should communicate why secrecy is important to the organization and should try to ensure that employees in these units have positive attitudes toward the company and trust the leaders who develop and implement TSPPs.

2.3. Managing organizations by telling, selling, and enforcing the rules

In order to create a positive secrecy climate, managers should convey information about TSPPs to employees and enforce those policies consistently. Communicating frequently and fully fosters transparency regarding TSPPs, which is important in generating a positive secrecy climate for at least two reasons. First, it will influence the extent to which employees are aware of the procedures and understand their requirements (Hannah, 2005). When employees are very familiar with the procedures, they will know how their employer wants them to go about protecting secrets. Second, providing more communication and feedback tends to be associated with an increased sense of procedural fairness among employees and a greater likelihood of responding positively to organizations' policies (Greenberg, 1990). Therefore, to develop a positive secrecy climate, managers should ensure that TSPPs are implemented in a clear and procedurally fair manner. For example, the U.S. Federal Bureau of Investigation's RED DART program emphasizes this kind of communication with employees (Federal Bureau of Investigation, 2012). The program, based in North Carolina's Research Triangle, is designed to remind employees of the importance of trade secret protection and to teach them how to spot suspicious behavior among their co-workers.

We also suggest that managers should attend to the enforcement of TSPPs, including punishment of those who violate secrecy policies. When TSPPs are strongly and fairly enforced, employees will have a

greater expectation of being caught and punished for failing to abide by them. Strong enforcement of TSPPs is likely to have several effects. First, it will reinforce the idea that there are disincentives in place for trade secret divulgence. Individuals keep secrets in part because of a desire to avoid negative consequences (Caughlin, Afifi, Carpenter-Theune, & Miller, 2005; Vangelisti & Caughlin, 1997). The presence of incentives also serves to signal employees just what is expected of them, because formal job requirements are more likely to be tied to rewards and punishments (Organ, 2009). If employees believe they will be punished for violating TSPPs, they will be more likely to view trade secrets protection as an expected part of their organizational roles. In addition, enforcement acts as a communication mechanism about what is important in organizations. The enforcement of TSPPs signals that the organization values the information in the secrets highly enough to exert effort toward protecting it (Dorr & Munch, 1995). Finally, in many circumstances, employees welcome enforcement of TSPPs because it can help them resist pressure from other insiders or outsiders to divulge the company's secrets (Hannah, 2005; Hannah & Robertson, 2015); in such cases they can simply argue that the rules do not permit them to share secrets with anyone.

Managers need to ensure that complete and clear communication about the rules precedes their enforcement, however. This is because strong enforcement of TSPPs can lead to concern and uncertainty among individuals who are less familiar with TSPPs. Employees confident in their understanding of secrecy policies respond more positively to TSPPs when the procedures are enforced, but employees less familiar with the rules—and therefore unsure of whether or not they are violating them—react even more negatively, resenting the TSPPs and the confusion they cause (Hannah, 2005).

3. What happens when organizations have a positive secrecy climate?

Now that we have outlined how managers can help protect their employers' secrets by creating positive secrecy climates, we turn our attention to the other consequences of these climates. We explore additional functional and dysfunctional consequences for employees, work units, and the organization itself.

3.1. Impact on employees: Work roles and secret-keeping stress

A benefit of positive secrecy climates for employees is that they provide clarity about how employees

should behave (Nicholson & Goh, 1983). In organizations with positive secrecy climates, employees are likelier to understand that trade secrets protection is an important component of the job and how to go about protecting those secrets. This clarity means that employees are more likely to feel satisfied with their jobs and loyal to the organization (Michaels, Cron, Dubinsky, & Joachimstaler, 1988; Snizek & Bullard, 1983).

Nevertheless, there may also be downsides to positive secrecy climates for employees. While they can provide role clarity regarding how employees are expected to act, those expectations can create conflict if incompatible with other obligations employees face (Biddle, 1986). Consider a key expectation of TSPPs: employees must keep information to themselves. Yet at the same time, some individuals hold organizational roles that require the sharing of information with others. For example, Apple employees are restricted from taking products off the Apple campus, yet they are also expected to field test products to ensure readiness for launch; this dichotomy reportedly causes stress and uncertainty for Apple employees (Cheng, 2012). Staff members are likely to find such contradictory obligations rather uncomfortable.

Furthermore, psychology researchers have found evidence that merely having and keeping a secret leads to strain and stress (Pennebaker, 1993). When people are asked to keep something secret, their attempts to do so actually make the information 'hyperaccessible' by prompting them to have unintentional intrusive thoughts about the secret (Lane & Wegner, 1995). Ignoring or repressing these intrusive thoughts is stressful. Thus, the more employees are aware of the importance of trade secrets through the secrecy climate, the more cognitively accessible these secrets may be, in turn leading to stress. We suspect that the stress would be particularly great in situations wherein employees felt pressure to divulge secrets, as with salespersons trying to impress potential customers by sharing secrets about the capabilities of a new product.

3.2. Impact on work units: Creating insiders and outsiders

Having a shared secret within a department or work unit has the potential to increase that group's cohesiveness (Rigney, 1979; Vangelisti & Caughlin, 1997). This effect has been observed in a number of different types of social groups, including high school girls (Merten, 1999), families (Vangelisti, 1994), and voluntary organizations (Fine & Holyfield, 1996). Therefore, when people in a work unit have a shared secret and view the keeping of that secret as

important and fundamental to their organizational roles, they will tend to be a more cohesive group, which can lead to positive consequences such as better communication and cooperation.

Of course, not all departments or work units will be privy to the organization's secrets. For example, R&D employees may need to know trade secrets about the type of materials used in a product while accounting employees would not have access to such information. When one party chooses not to share a secret with another, it is sometimes because the secret keepers think the potential secret recipients are not trustworthy enough to be made privy to the information (Frijns, Finkenauer, Vermulst, & Engels, 2005; Merten, 1999). Within organizations, groups that are excluded from secrets often interpret their exclusion as a signal that they are not considered sufficiently trustworthy (Hannah, 2005). Thus, in organizations with positive secrecy climates, the creation of insiders (those given access to secrets) and outsiders (those denied access to the secrets) has the potential to create divisions between the two groups. If communication or cooperation amongst those two groups is important to the effective functioning of the organization, such divisions may have deleterious effects.

3.3. Impact on organizations: Competitive and legal advantages at the cost of knowledge flow

If organizations have trade secrets or other resources that cannot be imitated or accessed by competitors, they can enjoy sustained competitive advantages (Barney, 1991; James et al., 2013; Wernerfelt, 1984). However, if secrets are not protected effectively and competitors gain access to them, the advantages can be eroded or even lost. In organizations with positive secrecy climates, there will be more widespread understanding about the importance of protecting trade secrets and adherence to TSPPs, allowing these organizations to preserve the value of those secrets and maintain a competitive advantage over long periods of time. For example, Google has managed to keep its search algorithms, which have been referred to as "the heart of Google," secret since the company was founded (Cook, 2014).

A second benefit of having a positive secrecy climate is that it is likely to increase the organization's ability to avail itself of legal remedies if someone should misappropriate its trade secrets. When a company takes an individual or organization to court alleging that trade secrets were misappropriated, the company must prove that it really considered the information in question to be confidential

(Merges et al., 1997). Courts will usually look for consistency between a company's allegations that information was a trade secret and the company's actions with regard to that secret. Specifically, judges will seek evidence that the firm enacted TSPPs and that there was understanding throughout the organization about the secrecy of the information. Companies with positive secrecy climates will better be able to demonstrate that these criteria have been met.

On the other hand, a well-recognized downside of secrecy is that it reduces the internal circulation of organizational knowledge, potentially even the flow of information that does not need to be kept secret. Some knowledge management experts have suggested that in order for organizations to operate effectively, they must ensure there is a high degree of internal knowledge sharing (Nonaka & Takeuchi, 1995; Quigley, Tesluk, Locke, & Bartol, 2007). In organizations with positive secrecy climates, the movement of information and knowledge is likely to be highly restricted. The more employees view following TSPPs as necessary to the functioning of the organization and as an integral part of their role responsibilities, the more restricted internal information flow will be. If the information is restricted inappropriately—in the sense that secret information does not reach those who need it to do their jobs well or that non-secret information is withheld from other employees—the overall effectiveness of the organization might suffer.

4. Conclusions on secrecy climates in organizations

We cannot overstate the importance of protecting organizational secrets in an increasingly competitive business landscape. If employees inappropriately disclose secrets, either accidentally or intentionally, an organization's competitive advantage may be lost, even when the courts implement remedies. For that reason, managers must be proactive in ensuring that secrets are not misappropriated. By creating positive secrecy climates in which keeping organizational secrets is strongly valued by employees and seen as a formal role responsibility, managers can improve the organization's ability to protect trade secrets. However, managers should also be aware of the potential downsides of these climates. To conclude, we elaborate on what we see as our most important implications for managers.

First and foremost, we emphasize that simply having rules about the access and handling of trade secrets may not be enough to protect those secrets. On the surface, an organization that has numerous TSPPs and clear, substantial punishments prescribed

for breaking them might appear to be one that protects its secrets effectively. We argue this is not necessarily the case. Instead, it is the climate that these rules and other organizational factors create that will, to a large extent, determine whether companies are able to protect their secrets. To reiterate some of the points we have made, if employees are not familiar with TSPPs, if they don't trust the leaders that implement the procedures, or if the TSPPs are implemented in a slapdash fashion, then TSPPs are unlikely to be supported by a positive secrecy climate and also unlikely to deter employees from divulging secrets.

Furthermore, we emphasize that having a positive secrecy climate can have negative effects. Much of what has been written about trade secret protection focuses on legalistic and procedural advice about how to prevent trade secrets from being divulged and about how to win legal disputes when trade secrets are misappropriated. These are important issues, but they overlook the social side of secrecy: how the procedures will influence social systems and the individuals in those systems. A positive secrecy climate may protect secrets, but it can also slow the sharing of organizational knowledge, create resentment among individuals who are not permitted access to organizational secrets, and make it more difficult for employees to perform aspects of their work efficiently and effectively.

To conclude, we hope we have provided useful guidance for managers interested in protecting organizational secrets. We suggest that the key to protecting trade secrets lies in the creation of a climate in which employees understand the importance of secrecy and strive to keep vital information confidential. However, we also encourage managers to remember that such a climate does have certain costs, and to weigh those carefully against the obvious benefits derived from keeping one's trade secrets out of the hands of competitors.

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